Please amend the present application as follows:

Specification

The following is a copy of Applicant's specification that identifies language being added with underlining ("___") and language being deleted with strikethrough ("—") or bracketing ("**[[ ]]**"), as is applicable:

Page 8, line 13 through page 9, line 18.

FIG. 1 generally illustrates the plasma enhanced chemical vapor deposition system utilized in performing the methods of the present disclosure. As illustrated in FIG. 1, the precursor 5 is fed from a precursor container **[[4]]** <u>6</u> by a conduit **[[6]]** <u>7</u>, such as a TEFLON or metal tubing, through a metering valve **[[7]]** <u>8</u>, such as a needle valve, to an inlet **[[2]]** <u>3</u> of reactor chamber 1 in the absence of a gas stream.

The reactor chamber 1 is formed from a material capable of withstanding the temperature generated during the CVD process. In particular, the reactor chamber 1 is stainless steel and typically 8" in diameter. When the liquid precursor 5 enters the low pressure side of the metering valve **[[7]]** <u>8</u> within the reactor chamber 1, it vaporizes to form a vapor precursor comprising a mixture with the same molar composition as the liquid precursor 5.

In addition to inlet **[[2]]** <u>3</u>, the reactor chamber 1 has an outlet **[[3]]** <u>4</u> connected to a mechanical vacuum pump **[[13]]** <u>11</u> through an automatically controlled throttle valve **[[14]]** <u>12</u> to maintain constant pressure in the reaction chamber 1 throughout the deposition process and for circulating the vapor of the liquid precursor 5 through the reactor chamber 1. The vapor precursor is maintained at a pressure within the vacuum

chamber 1 from about 10 Torr and 130 Torr, about 70 to 130 Torr, about 80 to 130 Torr, and, preferably 110 to 130 Torr, with the pressure being monitored by a pressure gauge (not shown).

The metering valve [[7]] 8 can include a temperature measuring device (e.g., a thermocouple) coupled to the tip of the metering valve [[7]] 8. The vaporization of the liquid precursor 5 causes the metering valve [[7]] 8 to decrease in temperature to a temperature value. The temperature value is correlated to a flow rate of the liquid precursor 5, which in turn corresponds to a pressure in the reaction chamber 1 under constant conditions. Therefore, opening the metering valve [[7]] 8 to an extent so that a known temperature value is obtained can substantially reproduce the corresponding flow rate of the liquid precursor 5 into the reaction chamber 1.

Page 10, lines 5 through 18.

Electromagnetic energy [[8]] discharged at various frequencies, for example, DC, RF, and microwave, and also high frequency electromagnetic energy such as energy discharged from a laser, is applied to the reactor chamber 1. A window [[9]] such as a quartz window that separates the low pressure reactor from ambient pressure and permit microwave energy to propagate into the reaction chamber 1. Preferably, the electromagnetic energy [[8]] is microwave energy. The reactor chamber 1 is a part of the cylindrical cavity for the microwave of 2.45 GHz.

A substrate [[11]] 2 is placed on a substrate holder [[12]], preferably a water-cooled substrate holder to control the temperature of and cool the substrate [[11]] 2. The substrate [[11]] 2 temperature is monitored with a dual color optical pyrometer (not

shown). The vaporized precursor liquid passes across the substrate surface **[[15]]**, in the absence of a carrier gas such as hydrogen (H_2), where the plasma **[[10]]** dissociates the vapor precursor and releases OH, H, O, CH_3, CH_2, etc. radicals for a net deposition of diamond on a substrate surface **[[15]]**.